7. HEAT TREAT OPERATION

The US&S Heat Treating Operations were located in Building #56. The Heat Treating operations were performed for a variety of purposes on a number of materials. The types of heat treats and the materials were as follows:

1. Anneal - ferrous, non ferrous
2. Normalize - various carbon steels, alloy steels
3. Austemper - various carbon steels, low alloy steels, tool steels
4. Stress Relief - Ferrilic Steel
5. Case Hardening - part carburizing, cyanidizing
6. Induction Hardening - Steel cast iron

The primary Waste Stream generated in the heat treating process was a listed waste stream created when the spent cyanide salts were removed from the cyanide pots in August of 1986. US&S had I.T. Corporation perform subsurface soil sampling under the Heat Treat Building from September 15 to September 19, 1986. I.T. Corporation took thirteen core samples and thirteen soil samples from under the Heat treat floor. (ref.Exhibit 7.1).The purpose was to analyze core samples and surface soil samples for total and leachable cyanide. Drill bits were cleaned with hexane and distilled water between each coring to prevent cross contamination. Each core hole was filled with cement to prevent creation of a conduit for subsurface contamination, if any.

As shown in (Exhibit 7.2.1 and 7.2.2 only one sample (26S) had appreciable leachable cyanide (3.6 mg/l). Although this sample was not significant the area was removed and disposed of as described later in this section.

Actual decommissioning of the building and equipment began in June of 1987.The first step in the decommissioning process was to remove any remaining cyanide salts from the two cyanide pots and dispose of them as a hazardous waste (Ref. Exhibit 7.3)

The second step was to vacuum the entire building from the support beams to the floor. This vacuuming was done to remove any cyanide dust that may have lifted off of the cyanide pots and settled in the surrounding area. The vacuumed dust was added to the drummed cyanide salts and disposed of as a hazardous waste. The total quantity of material obtained from this process was less than one 55 gallon drum. Composite samples were then taken from the Cyanide Pots and Heat Treat Ovens (Ref.Exhibit 7.4.1 & 7.4.2). Based on the results of those samples, the pots and the ovens were disposed of as a non-hazardous waste.

Demolition work began in September, 1987 with the removal of all equipment from the building. All furnaces were torn down and the brick and mortar taken to a sanitary landfill. The steel structure was salvaged where possible cut up,and sold as scrap.

The final stage of the decommissioning was to address the slightly elevated sub surface sample point (26S) which was located beneath the area of the cyanide pots. In November 1987 US&S employees removed a 30 ft.x 15ft. section of concrete south of the Heat Treat Office area which included sample 25C and four feet of the underlying soil which included sample 26S. Lab analysis indicated the material removed from the property was a non-hazardous waste, but as a precautionary measure was none the less disposed of at Cecos International's Niagara Falls, New York Secure Hazardous Waste landfill (Ref. Exhibit 7.5).

Four composite samples for total and leachable cyanide (Ref.Exhibit 7.6) were again taken at the site of the excavation. The remediation work had appreciably decreased the leachable cyanide in this area (Ref.Exhibit 7.7) and the site was backfilled with on site fill and closed.

Exhibit 7.1

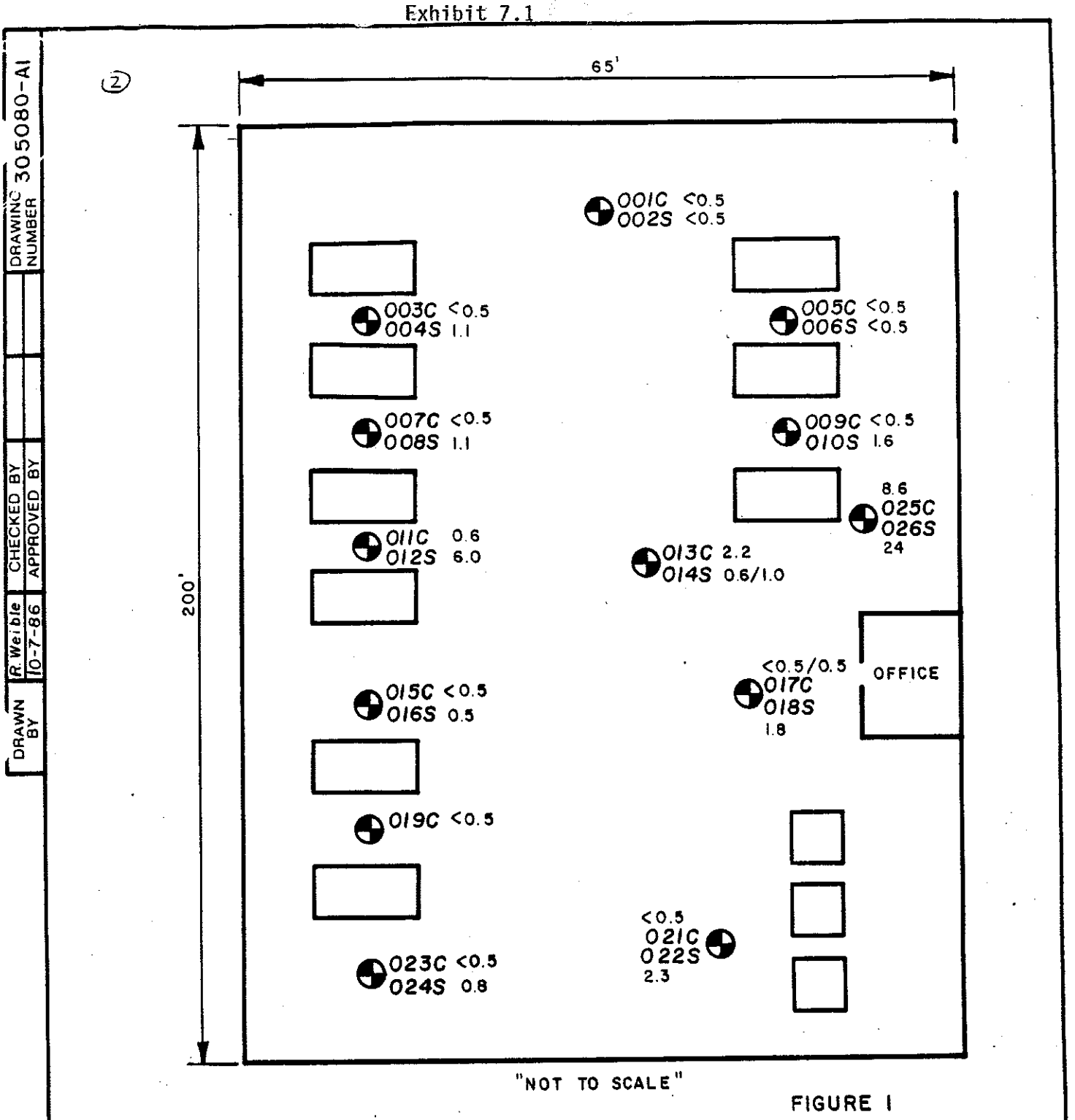


FIGURE 1

CYANIDE SAMPLE LOCATIONS
HEAT TREAT BUILDING

PREPARED FOR

UNION SWITCH & SIGNAL
PITTSBURGH, PENNSYLVANIA

LEGEND

003C <0.5 — CORE SAMPLE
004S 1.1 — CYANIDE IN PARTS PER MILLION (CN/PPM)
SOIL SAMPLE

NOTE

ANALYSIS IN PPM.

IT ... Creating a Safer Tomorrow

65380

Exhibit 7.2.1

INTERNATIONAL TECHNOLOGY CORPORATION

Memorandum

To: J. Sample

Date: October 9, 1986

From: R. M. Burke RMB 10/9/86
D. J. Nestasie DJN 10/9/86

Subject: Transmittal
Analytical Results for Union Switch & Signal
Project No. 305080

The IT Analytical Services (ITAS) Murrysville Laboratory has completed the analysis of the twenty-five samples received in our laboratory on September 17, 1986. Results of the analyses are presented in the enclosed table and were determined in accordance with U.S. Environmental Protection Agency analytical procedures.

Should you have any questions or need additional information, please contact us at the Murrysville Laboratory.

RMB;DJN:ws

(2)

Exhibit 7.2.2

CYANIDE ANALYSIS SUMMARY
FOR UNION SWITCH AND SIGNAL
PROJECT NO. 305080

SAMPLE IDENTIFICATION	PARAMETER: TOTAL CYANIDE mg/kg(1)	PARAMETER: LEACHABLE CYANIDE mg/ℓ(2)
HTB001C	<0.5	<0.02
HTB002S	<0.5	<0.02
HTB003C	<0.5	<0.02
HTB004S	1.1	<0.02
HTB005C	<0.5	<0.02
HTB006S	<0.5	<0.02
HTB007C	<0.5	<0.02
HTB008S	1.1	<0.02
HTB009C	<0.5	<0.02
HTB010S	1.6	<0.02
HTB011C	0.6	0.02
HTB012S	6.0	<0.02
HTB013C	2.2	0.04
HTB014S	0.6/1.0(3)	<0.02
HTB015C	<0.5	<0.02
HTB016S	0.5	<0.02
HTB017C	<0.5/<0.5	<0.02/<0.02
HTB018S	1.8	0.02
HTB019C	<0.5	<0.02
HTB021C	<0.5	<0.02
HTB022S	2.3	<0.02
HTB023C	<0.5	<0.02
HTB024S	0.8	0.02
HTB025C	8.6	0.09
HTB026S	24	3.6
Matrix Spike Percent Recovery	75%/88%	88%/62%

(1) mg/kg = milligrams per kilogram or parts per million.

(2) mg/ℓ = milligrams per liter or parts per million.

(3) The indicated samples were analyzed in duplicate.

... OF ENVIRONMENTAL RESOURCES
... of Waste Management
...
Harrisburg, PA 17120

Exhibit 7.3

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)
...-SWM-51:REV. 10/86
Form Approved. OMB No. 2050-0039 Expires 9-30-88

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. / Manifest Document No.	P A D 0 0 0 0 0 1 1 1 1 / 0 0 0 0 1	2. Page 1 of

Information in the shaded areas is not required by Federal law but is required by State law.

3. Generator's Name and Mailing Address
Union Switch and Signal
1789 S. Braddock Ave. Pittsburgh, PA. 15218

4. Generator's Phone ( )

A. State Manifest Document Number: PAB 4671225

B. State Gen. ID

5. Transporter 1 Company Name: 7 - 7 Inc.
6. US EPA ID Number: O H D 0 0 0 7 7 2 5 5 8

C. State Trans. ID: PA-AH

D. Transporter's Phone: 800 221-6096

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Trans. ID: PA-AH 0 2 3 8

F. Transporter's Phone ( )

9. Designated Facility Name and Site Address
Cecos International Inc.
5092 Aber Road
Williamsburg, Ohio 45176

10. US EPA ID Number: O H D 0 8 7 4 3 3 7 4 4

G. State Facility's ID: Not Required

H. Facility's Phone: 513 724-6114

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Hazardous Waste Solid N.O.S. ORM-E NA 9189 (D-006)	0 0 1	CM	2 0 0 . 0 0	P	D 0 0 6
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code)

	Haz. Code	Physical State			Haz. Code	Physical State
a.	T	S	Cadmium and Cyanide con & Debris	c.		
b.				d.		

K. Handling Codes for Wastes Listed Above
a. Landfill
b.
c.
d.

15. Special Handling Instructions and Additional Information
WO# 261001
PC# 11551-AAB
EES Buff Job # 312082

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
M. D. Tourdot	[signature]	09	02	87

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Dennis L. Anderson	[signature]	09	02	87

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

48,240#

Printed/Typed Name	Signature	Month	Day	Year
Kent Hocton	[signature]	9	4	87

PAB 4671225

EPA Form 8700-22 (Rev. 9-86) Previous editions are obsolete

COPY 3 — TSD FACILITY: MAIL TO GENERATOR

Exhibit 7.4.1

001

PTL - INSPECTORATE INC.

PITTSBURGH DISTRICT
850 POPLAR STREET
PITTSBURGH PENNSYLVANIA 15220
TEL 412-922-4000
FAX 412-922-4014

REPORT

Laboratory No. 886643
Client No. S-78825-0

ORDER NO. PCH-530
DATE June 17, 1987

Client	:	Union Switch & Signal Division American Standard Inc. 1789 South Braddock Avenue Swissvale, PA. 15218
Sample Description	:	Two (2) Jars of Water Two (2) Jars of Solids Identified as Waters - Final EFF 5/18/87; Drain Lines, 5/15/87; Identified as Composite Sample Heat Treat Oven; Heat Treat Pots
Submitted By	:	Client
Submitted To	:	PTL-Inspectorate Inc., Chemical Department
Method of Test	:	ASTM E-1097 STD. Method 412-B
Reported To	:	Union Switch & Signal Division American Standard Inc. Attention: M. D. Tourdot

Exhibit 7.4.2

Union Switch & Signal Division
American Standard Inc.
June 17, 1987

Order No. PCH-530
Lab. No. 886643

Determination	Results	
	Composite Sample Heat Treat Pot	Composite Sample Heat Treat Oven
Total Cyanide, ppm	.02	<.01

William S. Carlson, Manager
Chemical Department

2-Client

ear

Exhibit 7.5

Tanker Service
Digester Cleaning
Lagoon Cleaning
Field Gymmy Service

Waste Specialist
661 Weber Drive Wadsworth, Ohio 44281
216-336-6877

Specialists in Disposition of Hazardous and Chemical Waste

A Complete Transportation Company

JOB #	SITE #	CO.	TERM.	PRO. NO.
1317-T-3				32378

SHIPPER NAME	ORIGIN - ADDRESS	DATE PICKED UP	DATE DEL'D.
Union Switch and Signal	CITY Swissvale, Pa	12/7/87	12/7/87

INVOICE TO:

SPECIAL INSTRUCTIONS:

PLACARD: 1. 2.

SAFETY EQUIPMENT 1. 2.

HAZ. MAT.	COMMODITY DESCRIPTION (OR ACTIVITY PERFORMED)	QUANTITY	GALS. LBS. YDS. DRUMS	COMM. CODE	RATE	CHARGES
	Non-Hazardous, Non-Regulated construction debris and soil cscos W.O.Number 261634 Product Code 11551-AAH I hereby certify that the above named materal is not a hazardous waste as defined by 40CFR Part 261 or any applicable state law, has been properly described, classified and packaged andiis in proper condition for transporting according to applicable regulations.					

HAZARDOUS WASTE MANIFEST NO. 1 STATE	HAZARDOUS WASTE MANIFEST NO. 2 STATE	HAZARDOUS WASTE FEDERAL MANIFEST NO.

ARRIVE GATE	AM PM		ARRIVE GATE	AM PM	
START LOAD	AM PM		START UNLOAD	AM PM	
FINISH LOAD	AM PM		FINISH UNLOAD	AM PM	
DEPART GATE	AM PM		DEPART GATE	AM PM	
TOTAL TIME	HRS.		TOTAL TIME	HRS.	

GROSS WEIGHT	TARE WEIGHT	NET WEIGHT	TERMINAL MANAGER APPROVAL	DATE

VERIFIED BY: (CUSTOMER SIGNATURE) 12/7/87 RECEIVERS AGENT SIGNATURE AND/OR COMMENTS

DESTINATION NAME - ADDRESS	CITY	STATE
CECOS	Niagra Falls	New York

START TIME	STOP TIME	TOTAL TIME	BROKER NO.	TRAILER NO.	SPOTTED AT
			109	T202	DAYS _____ MILES _____

FROM Wooster, Oh TO Swissvale, PA TO Niagra, Falls, NY TO Wooster, Oh

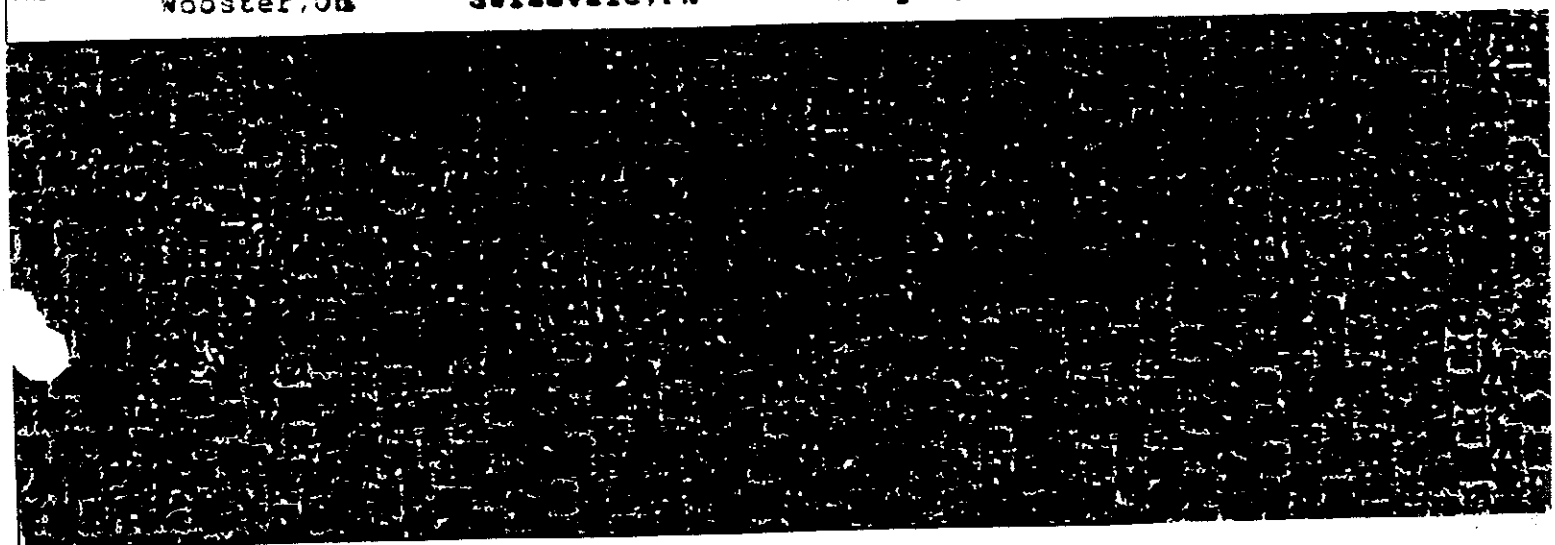
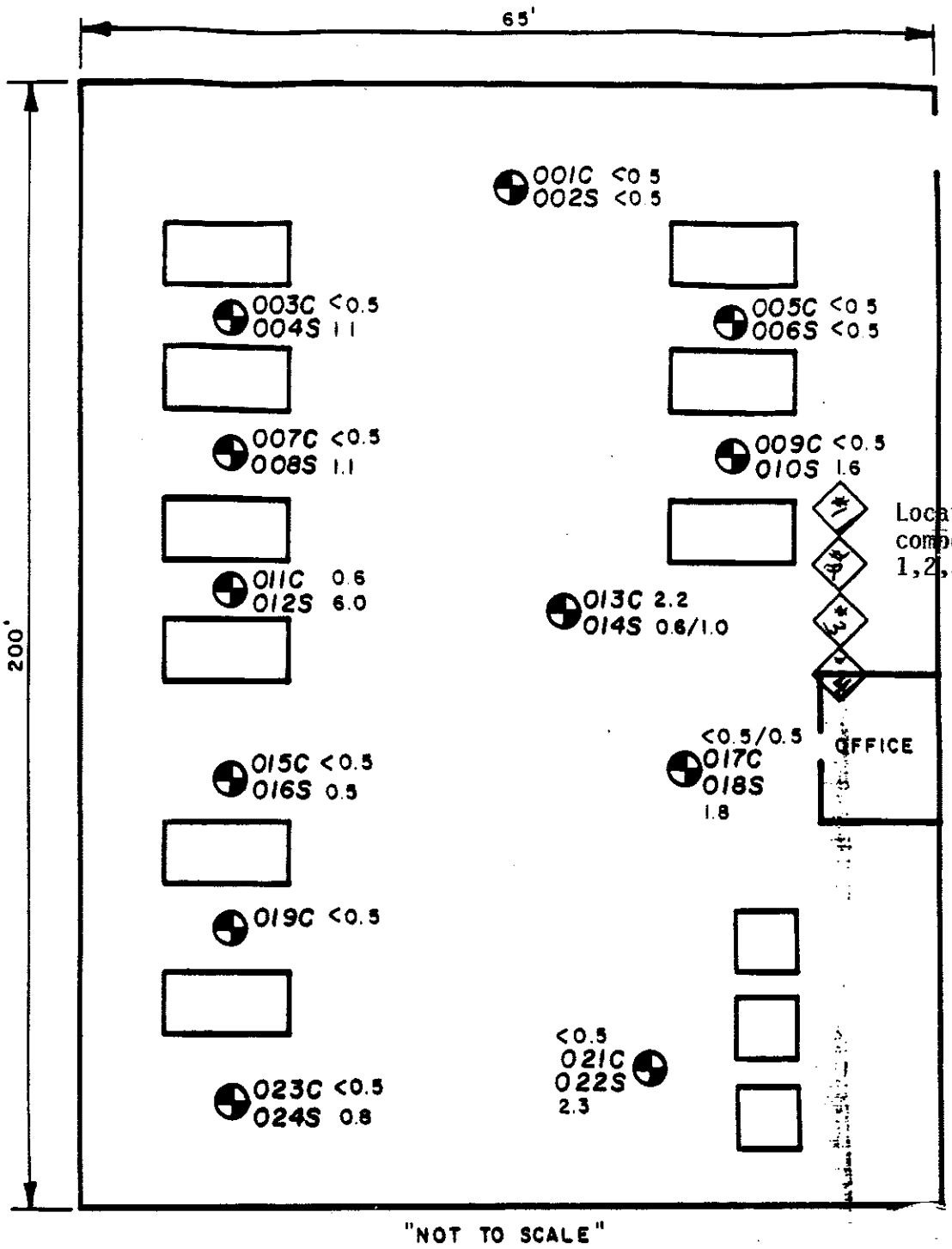


Exhibit 7.6



LEGEND

003C <0.5 — CORE SAMPLE
004S 1.1 — CYANIDE IN PARTS PER MILLION (CN/PPM)
SOIL SAMPLE

CYANIDE SAMPLE LOCATIONS
HEAT TREAT BUILDING

PREPARED FOR

UNION SWITCH & SIGNAL

PITTSBURGH, PENNSYLVANIA

DRAWING NUMBER
CHECKED BY
APPROVED BY
R Weible 10-7-86

Exhibit 7-7

SOIL ANALYSIS SUMMARY
FOR UNION SWITCH & SIGNAL
PROJECT NO. 30599

SAMPLE IDENTIFICATION	PARAMETER: CYANIDE, TOTAL mg/kg[1]	CYANIDE, LEACHABLE mg/ℓ[2]
Heat Treat Area:		
Sample #1	6.4	0.45/0.27[3]
Sample #2	22	0.24/0.23
Sample #3	<1.96/<1.84	0.02
Sample #4	<1.96	<0.02
Duplicate Extraction #1	—	0.27
	Matrix Spike[4] Percent Recovery	
Heat Treat Area:		
Sample #3	—	88%
Sample #4	99%	—

[1] mg/kg = milligrams per kilogram or parts per million.

[2] mg/ℓ = milligrams per liter or parts per million.

[3] The indicated samples were prepared and analyzed in duplicate.

[4] The sample was spiked during the preparation process.